

Application Number 09/778,486
Amendment in Response to Office Action mailed February 9, 2005

REMARKS

In the Office Action, the Examiner:

(1) rejected claims 1, 4, 5, 9, 10, 13, 26, 29, 30, 35, 38, 41, 43 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,638,117 to Engeldrum et al.(Engeldrum) in view of U.S. Patent No. 6,396,505 to Lui et al. (Lui) and "Why Do Images Appear Darker on Some Displays? An Explanation of Monitor Gamma," by Robert W. Berger (Berger);

(2) rejected claims 9 and 34 under 35 U.S.C. 103(a) as being unpatentable over Engeldrum in view of Lui and Berger, and further in view of U.S. Patent No. 6,243,070 to Hill et al. (Hill);

(3) rejected claims 2-3, 11-12, 15-16, 21-25, 27-28, 36-37, 42 under 35 U.S.C. 103(a) as being unpatentable over Engeldrum in view of Lui and Berger, and further in view of U.S. Patent No. 6,439,722 to Seegers et al. (Seegers);

(4) rejected claim 23 under 35 U.S.C. 103(a) as being unpatentable over Engeldrum in view of Lui, Berger and Seegers, and further in view of Hill; and

(5) rejected claims 14 and 39-40 under 35 U.S.C. 103(a) as being unpatentable over Engeldrum in view of Lui and Berger, and further in view of U.S. Patent No. 6,349,300 to Graf et al. (Graf).

Applicants traverse the various rejections under section 103. The applied references fail to disclose or suggest the claimed inventions, and provide no teachings that would have suggested the desirability of modification to arrive at the claimed inventions.

For example, the applied references fail to disclose or suggest estimation of an initial gamma for a display device based on selection of a displayed green element that appears to most closely blend with a dithered green background, characterization of overall gamma for red, blue, and green channels of the display device based on the estimated initial gamma, and modification of the overall gamma based on a gray balance evaluation for the red and blue color channels, as set forth in method claims 1-14 and 41, or in computer-readable medium claims 26-40 and 43.

The applied reference also fail to disclose or suggest a system comprising a web server to transmit web pages to clients, a color image server to transmit color images referenced by the web pages, a color profile server to guide the clients through a color profiling process and obtain information characterizing the color responses of display devices associated with the clients,

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wherein the information includes an initial gamma determined based on selection of a display green element that appears to most closely blend with a dithered green background, and an overall gamma for red, blue, and green channels of the display device determined from the initial gamma, wherein the overall gamma is modified based on a gray balance evaluation for the red and blue color channels, and one or more color correction modules to modify color images transmitted by the color image server based on the information, as in claims 15-25 and 42.

Engeldrum

In the two previous responses, Applicants clearly explained the differences between the Engeldrum reference and the claimed invention. Yet, in this third, non-final action, the Examiner has again applied the Engeldrum reference, without even addressing Applicant's remarks. In many instances, the present Office Action is simply a copy of the previous Office Action, with no further details or explanation of the rejections, nor any reply to Applicant's extensive distinguishing remarks. Pursuant to MPEP § 707.02, Applicants respectfully request that the Supervisory Patent Examiner in charge of this application inspect the prosecution history, and review the applicable rejections in the interest of expediting prosecution.

It is unclear why the Examiner has chosen to ignore Applicants' remarks with respect to Engeldrum. The Examiner's failure to address Applicants' remarks is improper, and has resulted in a substantial and unfortunate delay in the prosecution of this application. Even though the Examiner has relied upon the newly cited Lui reference to formulate new grounds of rejection, Engeldrum remains the primary reference. Therefore, the Examiner cannot simply disregard Applicant's remarks in favor of the new grounds of rejection. Rather, the Examiner must address the arguments raised by Applicants, or withdraw his reliance on Engeldrum.

As previously explained, Engeldrum does not disclose characterizing overall gamma for red, green and blue channels based on an estimated initial gamma, as required by the claims. On the contrary, in precisely the passages relied upon by the Examiner, Engeldrum clearly states that individual gammas are determined separately for the red, green and blue channels. The Examiner referred to FIG. 5, and Col. 3, lines 50-63, of Engeldrum et al. as describing an overall gamma for the red, blue and green channels. In that section, however, Engeldrum very plainly

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teaches that "separate gamma . . . determinations are performed for red, green and blue components" (emphasis added). Engeldrum et al., Col. 3, lines 53-56.

If the Examiner disputes the Applicants' reading of the Engeldrum reference, then he should provide an explanation on the record. If Applicants' reading of Engeldrum is not in dispute, then it is unclear why the Engeldrum reference still serves as the basis for all rejections under section 103.

In the previous response, Applicants also pointed out that Engeldrum cannot possibly disclose modification of overall gamma based on a gray balance evaluation for the red and blue channels if there is no overall gamma in Engeldrum in the first place. In his analysis, the Examiner asserted that Engeldrum et al. discloses modifying overall gamma based on a gray balance evaluation for the red and blue channels and pointed to FIG. 5, items 500, 102, 206, and Col. 3, lines 50-63.

As discussed above, Engeldrum does not even produce a characterization of overall gamma. Instead, Engeldrum et al. makes separate gamma determinations. Hence, to the extent Engeldrum et al. would describe any modifications based on gray balance, such modifications are necessarily made with respect to the separate gammas, rather than on the basis of an overall gamma for the red, green and blue channels, as claimed by Applicants.

Lui

The Examiner acknowledged that Engeldrum does not disclose estimation of an initial gamma based on selection of a displayed green element that appears to most closely blend with a green background. Indeed, Engeldrum does not disclose an initial gamma estimate whatsoever, given the fact that Engeldrum teaches the determination of separate, individual gammas. Nevertheless, the Examiner cited Lui as teaching "that humans are not equally sensitive to the colors of red, green and blue, with green luminous intensity equal 60%." The Examiner further asserted that Lui teaches correction of gamma for "green pixels on green background," citing Col. 25, line 20, to Col. 26, line 6, of Lui.

The Examiner failed to identify any teaching in Lui concerning estimation of an initial gamma on which an overall gamma for red, green and blue channels is based, as required by the claims. Hence, the Examiner seems to have overlooked the actual requirements of the claims,

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and has not established a prima facie case of unpatentability. Moreover, the Examiner's basic analysis of Lui is incorrect.

In the cited passages, Lui does not describe estimation of an initial gamma based on selection of a displayed green element that appears to most closely blend with a green dithered background, or even correction of gamma for "green pixels on green background," as stated by the Examiner. Instead, Lui describes the correction of luminous intensity values associated with individual pixel sub-components in a display. Instead of driving the red, green and blue pixel sub-components with a common pixel intensity, Lui describes the control of the pixel sub-components as independent luminous intensity sources.

Lui describes "a pixel color processing sub-routine 1900 for detecting color errors in pixels and for compensating of reducing for detected errors by setting one or more pixel sub-component luminous intensity values to match a pixel sub-component luminous intensity value associated with a corresponding R, G, or B pixel sub-component of foreground or background colored pixels." Col. 25, lines 20-27. In this section, Lui makes no mention of gamma estimation. Rather, Lui is focused on intensity corrections for individual pixel values so that intensity values are between respective foreground and background levels. The process described by Lui has nothing to do with gamma estimation, and bears no relationship to the requirements of Applicants' claims.

The Examiner apparently keyed on the term "background" in Lui. However, the Examiner's fixation on this term underscores his misunderstanding of the Lui reference. Lui does not refer to display of a green element with a green dithered "background," nor selection of any green element. Rather, Lui refers to "foreground" and "background" pixel sub-components. In general, as is well known to those in the graphic arts, foreground pixels are those pixels used to form text or other graphic objects, while background pixels are those pixels that form part of a continuous background. Accordingly, Lui refers not to a dithered background for estimation of gamma, but background pixels used in forming an image. The use of the term "background" in Lui is completely irrelevant to Applicants' claimed invention.

Further, in noting the heightened sensitivity of the human eye to green, Lui merely makes the point that individual control of red, green and blue pixel sub-components may be desirable. For example, as mentioned above, Lui describes treatment of pixel sub-components as separate

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luminous intensity sources. In no way does Lui suggest estimation of an initial gamma based on selection of a displayed green element that appears to most closely blend with a dithered green background. Instead, Lui appears to make the point that the different sensitivities presented by red, green and blue colors may be one reason to consider controlling red, green and blue colors independently as separate luminous sources.

Given the teachings of Lui with respect to correction of luminous intensity values for pixel sub-components, one of ordinary skill in the art would have found no teaching even remotely relevant to modification of Engeldrum to arrive at the claimed invention. Engeldrum does not disclose estimation of an overall gamma for the red, green and blue channels, nor modification of such an overall gamma based on a gray balance evaluation of the red and blue color channels. Lui provides no teaching that would have suggested estimation of an initial gamma for a display device based on selection of a displayed green element that appears to most closely blend with a dithered green background. Therefore, when combined, Engeldrum and Lui would not amount to anything resembling the claimed invention.

Berger

The Examiner acknowledged that Engeldrum does not disclose the requirement of a "dithered green background," but cited Berger. The dithered gray level elements in the second figure ("Gamma Demonstration Image") in the Berger document are not used for gamma estimation, but rather to illustrate how dithering can be used to approximate the appearance of a continuous tone element. The third figure of Berger shows an image that is used for gamma estimation. However, Berger provides no teaching that would have suggested estimation of an initial gamma for a display device based on selection of a displayed green element that appears to most closely blend with a dithered green background. In addition, Berger provides no teaching sufficient to overcome the other deficiencies already identified below in Engeldrum and Lui.

Hill

The cited portions of Hill pertain to correction of luminous intensity values associated with pixel sub-components, and have nothing whatsoever to do with gamma estimation. The Examiner's reliance on Hill is misplaced. Hill, like Lui, describes control of pixel sub-

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components as individual luminous sources, and provides no teaching concerning limitation of an estimated initial gamma to the green channel. It is unclear how the Examiner could have construed Hill in the manner expressed in the Office Action.

Seegers

Seegers provides no teaching sufficient to overcome the deficiencies in Engeldrum and Lui as described above.

Graf

The Examiner cited Graf as teaching guiding a client through the process of obtaining the estimated gamma by delivering one or more instructional web pages to the client. The Examiner pointed to Col. 6, lines 29-58, of Graf, as providing such a teaching. The Examiner's interpretation of Graf is incorrect. In the cited passages, Graf does not describe gamma estimation or delivery of instructional web pages to obtain a gamma estimation. Instead, Graf describes a process for selecting product colors. The user slides a bar along a spectrum to view available product colors closest to the point on the spectrum. Graf makes no mention of gamma estimation or color characterization of a display device. Accordingly, it is difficult to understand how Graf could be considered relevant to the claimed invention.

Dependent Claims

The references applied by the Examiner also fail to disclose or suggest numerous additional features set forth in Applicants' dependent claims. For the sake of brevity, and in light of the clear prior art deficiencies already identified above with respect to the independent claims, Applicants briefly touch on some of the additional features below for purposes of illustration. At the same time, however, Applicants in no way acquiesce in the propriety of the Examiner's rejections with respect to the dependent claims, either in the Examiner's interpretation of the claims or factual findings with respect to the scope and content of the prior art.

As a first example, claims 4, 5, 29 and 30 require estimating both a coarse gamma and a fine gamma based on selection of one of a first and second plurality, respectively, of green elements that appears to most closely blend with a dithered green background, wherein the

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second plurality of green elements includes the green element selected from the first plurality of green elements. The prior art fails to suggest such features. In the Office Action, the Examiner acknowledged that Engeldrum, Lui and Berger do not teach a fine gamma estimation as defined by claims 4, 5, 29 and 30. As in the previous Office Action, however, the Examiner stated that "one of ordinary skill in the art would recognize that the first and second plurality of green elements only different [sic] in the scale of gradations, therefore will required [sic] no new approach."

This observation by the Examiner amounts to a an unsupported allegation of common knowledge in the art, which finds no basis in any substantial evidence in the record, and is therefore wholly improper. Moreover, the "no new approach" rationale advanced by the Examiner is inapplicable to the issue of obviousness. The question is not whether a new approach would be required for a fine gamma estimation, but whether it would have been obvious to even provide fine gamma estimation as defined by the claims. In addition, the Examiner reasoned that such a modification would have been obvious "to display images accurately and clearly." Yet, such a vague motivation is virtually universal, and has nothing to do with the specific requirements of Applicants' claims. Applicants request that the Examiner identify a teaching in the prior art that would have such as feature, or withdraw the rejection of claims 4 and 5 under section 103.

As a second example, claim 13 specifies that the dithered green background of claim 1 is a dithered approximately 33% green background. In the Office Action, the Examiner acknowledged that Engeldrum et al., Lui and Berger lack such a teaching, but stated that "one of ordinary skill in the art will recognize that any value of green background would be assigned for the testing and characterization, including 33% green background." Once again, the Examiner pointed to the vague motivation that such a modification would enable one "to display color images accurately and clearly." This general allegation is entirely unsupported by substantial evidence in the record, and is therefore improper. Moreover, the Examiner did not explain why "any value of green background" would be "assigned for testing and characterization." Most importantly, the Examiner did not cite any prior art teaching to substantiate the Examiner's assertion. Clearly, the rejection of claim 13 is improper.

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In general, for at least the reasons expressed in this Amendment, the Examiner has not established a prima facie case of unpatentability with respect to the pending claims. Therefore, the rejections under section 103 are improper and must be withdrawn.

Rejection for Obviousness-type Double Patenting:

The Examiner also rejected claims 1-43 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-42 of commonly owned co-pending Application No. 09/778,704. As in the previous response, Applicant respectfully traverses this rejection. Unfortunately, the Examiner's analysis is identical to the previous Office Action and, once again, fails to address the remarks advanced by Applicants in the previous response.

To support an obviousness-type double patenting rejection, the Examiner must assess the differences between the claims in the pending application and the claims in the issued patent. In re Berg, 46 USPQ2d 1226, 1229 (Fed Cir. 1998). In particular, the Examiner should indicate why the claims in an application are obvious over the claims in the granted patent. Id.

In the Office Action, the Examiner merely stated that the application and patent claims are not patentably distinct "because claimed feature is just broadly claimed." The proper analysis is not whether features are broadly claimed, but whether such features would have been obvious in view of the claims set forth in the issued patent. Applicants respectfully submit that the pending claims, which relate to generation of a color map, would not have been obvious in view of the patent claims, which generally relate to retrieval, application and use of color maps and device links.

The rejection for obviousness-type double patenting should be withdrawn. If the Examiner chooses to maintain the obviousness-type double patenting rejection, however, Applicants again request clarification of the grounds of rejection.

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CONCLUSION

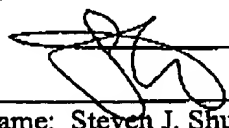
All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

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